

CAMI - Artificially intelligent ecosystem for self-management and sustainable quality of life in AAL

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CAMI is offering a fully integrated AAL solution at the overlap of smart homes, telecare, health and robotics by providing services for health management, home management and wellbeing (including socialization, and reduced mobility support). CAMI builds an artificial intelligence ecosystem endowed with multimodal interaction (touch, voice, person detection), which allows seamless integration of any number of ambient and wearable sensors with commercial robotic platforms. The CAMI solution will reconcile the increased demand for care in the current aging society with limited resources by supporting an efficient and sustainable care system. This will allow older adults to self-manage their daily life and prolong their involvement in the society while allowing their informal caregivers to continue working whilst caring for their loved ones. CAMI will be extensively tested and validated with end-users through the project.

The CAMI consortium comprises 8 participants from 5 countries, including 6 companies and 2 research universities: *University Politehnica of Bucharest* (Project coordinator) and *Centrul IT pentru Stiinta si Tehnologie SRL* in Romania, *CNet Svenska AB* and *Mälardalen University* in Sweden, *Ecotopias* and *Aliviate Development ApS* in Denmark, *ECLEXYS Sagl* in Switzerland and *Knowledge Society Association* in Poland.

Current results

1. Extensive users involvement:
 - Self-documentation and shadowing revealed differences and similarities in user requirements in Poland, Romania and Denmark. Users' positive attitude towards new technologies is an important common feature.
 - A multinational survey with 105 primary and 58 secondary users has identified both the requirements and the acceptance of the users for the CAMI components: (i) social interaction desired by 90% of the respondents, 67% accept internet for this; (ii) 44% are interest in physical and cognitive games; (iii) 80% accept a mobile screen and 50-65% accept a robot.
2. Modular architecture based on open source components and artificial intelligence: the main components of the architecture address health and home care monitoring; fall detection; computer supervised physical exercises; personalized, intelligent and dynamic program; report and communication to health professionals, robotic telepresence; communication through voice and gesture interfaces.
3. Development of the CAMI components has started in parallel with the integration of: Linkwatch the intelligent platform for medical data collection and monitoring of patients in their homes by CNet; OpenTele the open source Danish platform for health monitoring; Tiago a service robot by Pal robotics and Pepper the emotional robot by SoftBank; Eclexys multimodal gateway, etc.

Future work

1. CAMI modules will be iteratively implemented and tested based on interaction episodes and user involvement.
2. CAMI will be presented in fairs and exhibitions to stakeholders such as senior associations, health organizations, IT organizations, governmental and regional entities as well as to individual senior citizens. The scientific community will be targeted through scientific publications in journals and conferences.
3. The field trials will take place in real home environments in Romania, Poland and Denmark.
4. Development of the CAMI business model to ensure a successful launch on the market.

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